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Claims

[c1] 1. A method for dispersing fuel within a fuel containment system of an aircraft comprising:
utilizing a fuel containment system on an aircraft, said fuel containment system being located at least partially within a wing of an aircraft and defining a reservoir portion and a remote portion;
pumping fuel at least during aircraft flight from said reservoir portion to said remote portion at a pumped rate;
permitting simultaneous drainage of fuel contained in said remote portion of said fuel containment system to said reservoir portion at a drainage rate, said drainage rate being less than said pumped rate; and
accumulating a fuel mass in said remote portion of said fuel containment system because of the difference between said pumped rate and said drainage rate and thereby inducing a counteractive moment in the aircraft opposingly directed to a lift moment caused by wing-lift during aircraft flight.

[c2] 2. The method as recited in claim 1, further comprising:
utilizing a pressured fuel supply to exclusively power

said pumping of fuel from said reservoir portion to said remote portion.

[c3] 3. The method as recited in claim 2, further comprising: employing an ejector pump, powered by said pressured fuel supply, to pump fuel from said reservoir portion to said remote portion.

[c4] 4. The method as recited in claim 3, further comprising: employing a fuel pump to establish said pressured fuel supply, said fuel pump having a fuel inlet positioned in said reservoir portion at an elevation, relative to said reservoir portion, that defines a fuel pump inlet elevation.

[c5] 5. The method as recited in claim 4, further comprising: configuring said ejector pump so that an ejector pump inlet is positioned in said reservoir portion at an elevation, relative to said reservoir portion, that defines an ejector pump inlet elevation.

[c6] 6. The method as recited in claim 5, further comprising: arranging said ejector pump inlet elevation higher than said fuel pump inlet elevation within said reservoir portion.

[c7] 7. The method as recited in claim 6, further comprising: detecting when fuel in said reservoir portion falls below

a predetermined level, said predetermined level being higher, relative to said reservoir portion, than said fuel pump inlet elevation.

[c8] 8. The method as recited in claim 3, further comprising: selecting said ejector pump to pump at a positive multiplicative rate of a powering pressured rate supplied thereto.

[c9] 9. The method as recited in claim 8, further comprising: selecting said ejector pump to have a capacity to deliver a pumped rate of approximately ten times the powering pressured rate supplied thereto.

[c10] 10. The method as recited in claim 1, further comprising: employing a flow-impeding partition in said fuel containment system, said flow-impeding partition being configured to establish said drainage rate.

[c11] 11. The method as recited in claim 10, further comprising:
establishing said flow-impeding partition by adaptation of a structural rib within said wing of said aircraft.

[c12] 12. The method as recited in claim 10, further comprising:
employing a recess in a top portion of said flow-impeding partition thereby establishing an overflow weir

which during steady-state dispersion of fuel to said remote portion of said fuel containment system, establishes an overflow rate of fuel that spills thereover, and said overflow rate, together with a simultaneously occurring drainage rate establishing a return rate of fluid to said reservoir portion that substantially equals a simultaneously occurring pumped rate.

[c13] 13. The method as recited in claim 10, further comprising:

utilizing an aperture in said flow-impeding partition to establish said drainage rate.

[c14] 14. The method as recited in claim 13, further comprising:

controlling said drainage rate by adaptation to an aperture through said flow-impeding partition.

[c15] 15. The method as recited in claim 13, further comprising:

accomplishing said adaptation to said aperture by restriction of flow therethrough by reduction of an open area thereof.

[c16] 16. The method as recited in claim 15, further comprising:

locating a tubing segment in said aperture thereby re-

stricting flow through said aperture.

[c17] 17. The method as recited in claim 16, further comprising:

selecting said tubing segment to be composed of at least semi-flexible material and having an outer periphery that establishes a conformance-fit with an inner periphery of said aperture upon location by insertion of said tubing segment into said aperture.

[c18] 18. The method as recited in claim 1, further comprising:

selecting said pumped rate to be approximately twice said drainage rate.

[c19] 19. The method as recited in claim 1, further comprising:

causing said pumping of fuel from said reservoir portion to said remote portion to automatically begin, without input from an operator, upon said pressured fuel supply's initiation.